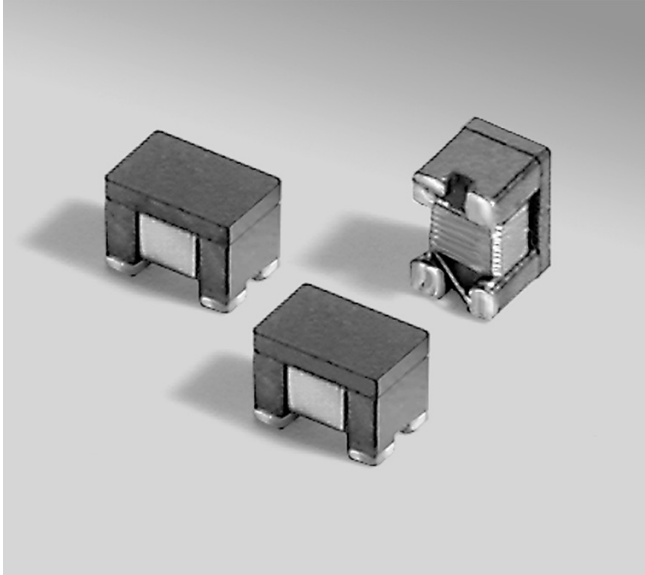


# USB 2.0 Common Mode Choke 0805



- For common mode noise suppression in high speed differential signal lines: USB2.0, IEEE1394, LVDS, etc.
- Up to 3.4 GHz differential mode 3 dB cutoff frequency
- Up to 2 kOhms common mode peak impedance
- Over 35 dB common mode noise attenuation

**Designer's Kit C470** contains 10 each of all 0603USB, 0805USB, 0805USBF, 0805USBN and 1206USB parts

**Core material** Ferrite

**Environmental** RoHS compliant, halogen free

**Terminations** Gold over nickel over silver-palladium-glass frit.

**Ambient temperature** -40°C to +85°C with Irms current

**Maximum part temperature** 105°C (ambient + temp rise)

**Storage temperature** Component: -40°C to +105°C.

Tape and reel packaging: -40°C to +80°C

**Resistance to soldering heat** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

Part number <sup>1</sup>	Common mode peak impedance (kOhms)	Cutoff frequency <sup>2</sup> (GHz)	Common mode attenuation typ (dB)			Inductance <sup>3</sup> min (nH)	DCR max <sup>4</sup> (Ohms)	Isolation <sup>5</sup> (Vrms)	Irms <sup>6</sup> (mA)
			10 MHz	100 MHz	500 MHz				
0805USB-421ML_	>0.22 @ >3.0 GHz	3.5	1.1	2.3	8.4	23	0.12	250	500
0805USB-901ML_	>0.29 @ >3.0 GHz	2.5	1.4	4.2	16.9	47	0.17	250	500
0805USB-172ML_	0.64 @ 1.8 GHz	1.8	2.3	6.7	22.0	84	0.25	250	500
0805USB-262ML_	0.82 @ 1.8 GHz	1.5	3.0	8.6	27.8	147	0.26	250	500
0805USB-372ML_	1.06 @ 1.4 GHz	0.82	4.5	11.9	34.3	189	0.32	250	500
0805USB-502ML_	1.42 @ 1.1 GHz	0.70	4.9	14.5	31.3	273	0.37	250	500
0805USB-672ML_	1.75 @ 0.93 GHz	0.46	8.4	16.6	30.0	322	0.45	250	500
0805USB-902ML_	2.06 @ 0.90 GHz	0.47	8.7	18.7	30.5	413	0.65	250	400

1. When ordering, please specify **packaging** code:

**0805USB-902MLC**

**Packaging: C** = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).

**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape (7500 parts per full reel).

2. Frequency at which the differential mode attenuation equals -3 dB

3. Inductance measured at 100 MHz using an Agilent/HP 4286A impedance analyzer and a Coilcraft SMD-A fixture.

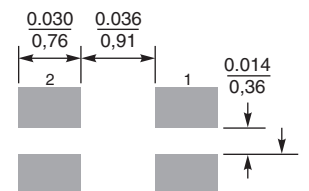
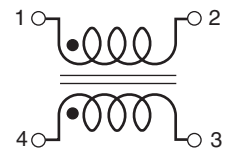
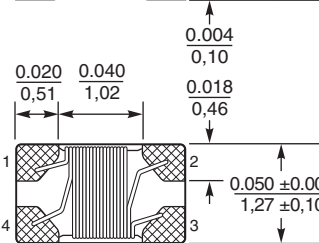
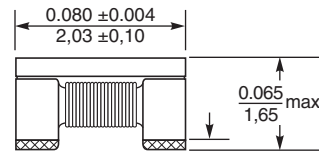
4. DCR is specified per winding.

5. Winding to winding isolation (hipot) tested for one minute.

6. Current per winding that causes a 20°C rise from 25°C ambient.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



Dimensions are in  $\frac{\text{inches}}{\text{mm}}$

**Recommended Land Pattern**

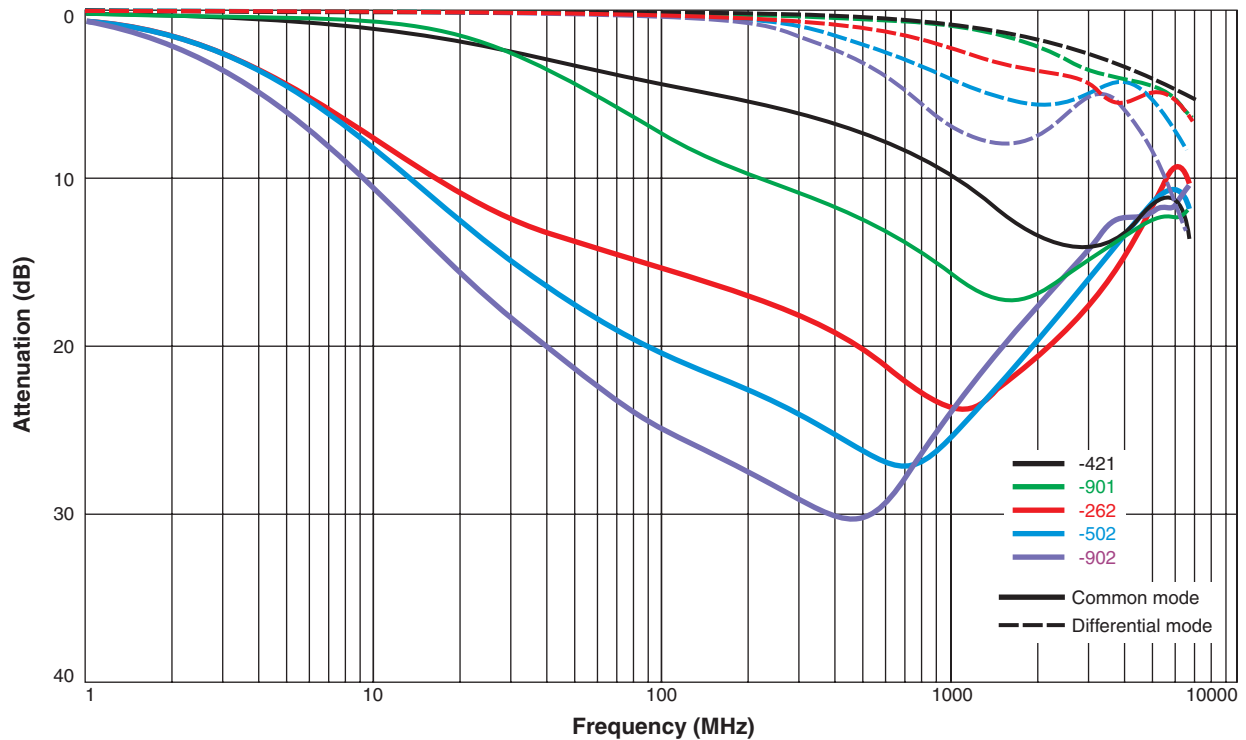
**Weight** 14.9 – 15.2 mg

**Packaging** 2000/7" reel; 7500/13" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.5 mm pocket depth

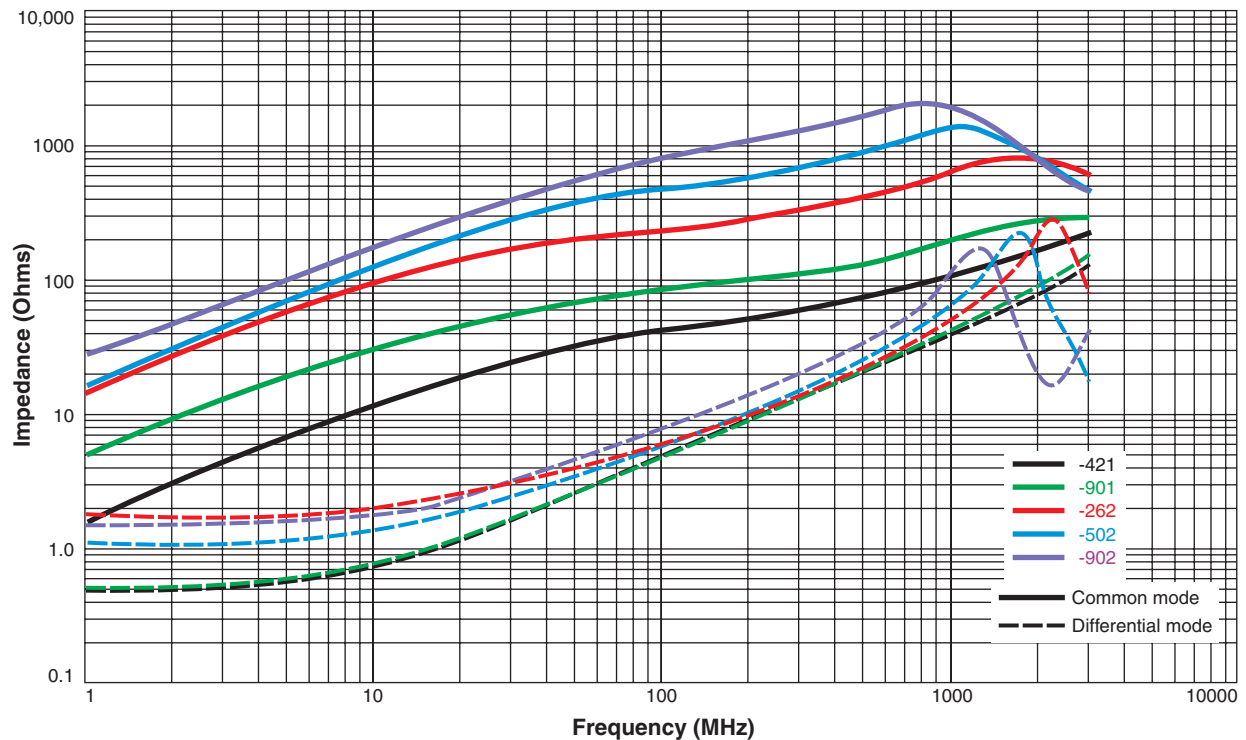


# USB 2.0 Common Mode Filter – 0805

Typical Attenuation (Ref: 50 Ohms)



## Typical Impedance vs Frequency



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